OPERATION IRAQI FREEDOM

PREVENTIVE MEDICINE BRIEFING

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AGENDA

- Purpose
- Background
- Review of Guide to Staying Healthy
- Preparation for Deployment
- Deployment
- Post Deployment
- Summary
- Conclusion

PURPOSE

Inform Deploying Personnel (Military and Civilian) of the Potential Health Hazards and the Individual Countermeasures Necessary to Assure Personal Safety and Health

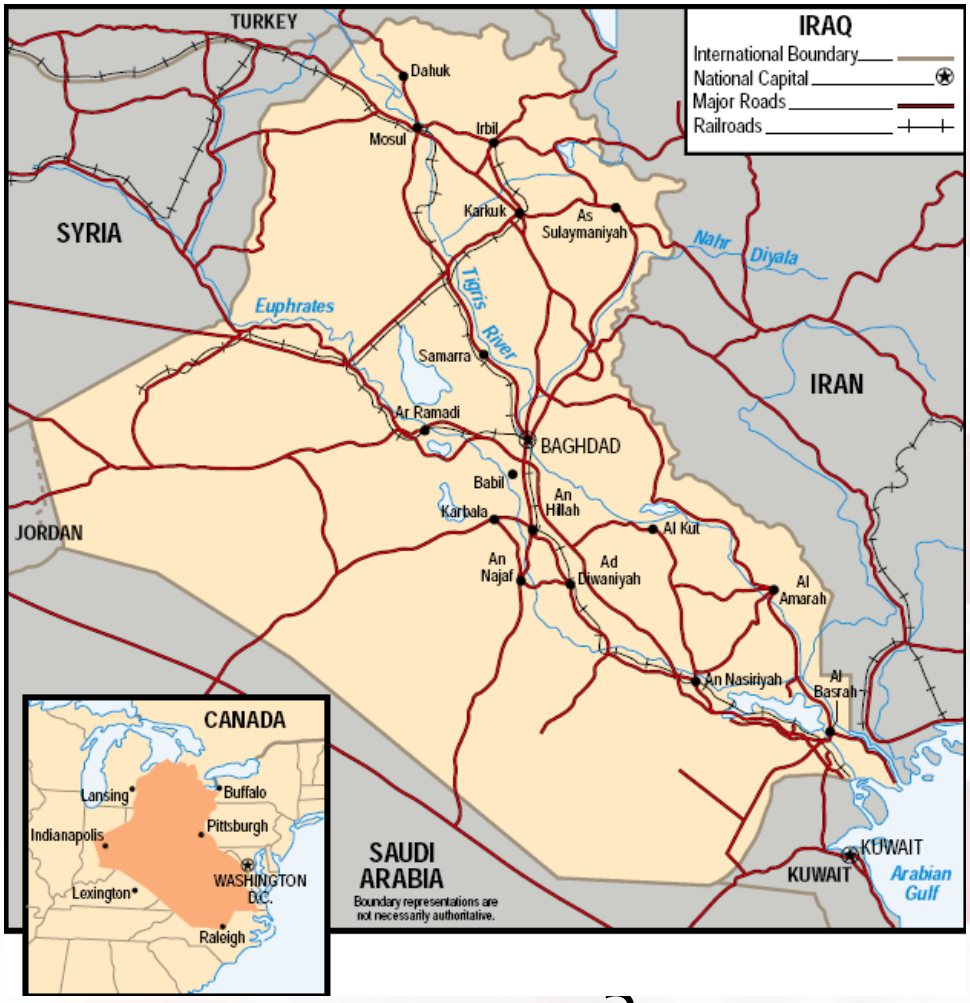
BACKGROUND

- US Forces are mobilizing and deploying in support of Operation Iraqi Freedom (OIF)
- Environmental, safety, and occupational health hazards are a potential medical threat to deployed personnel

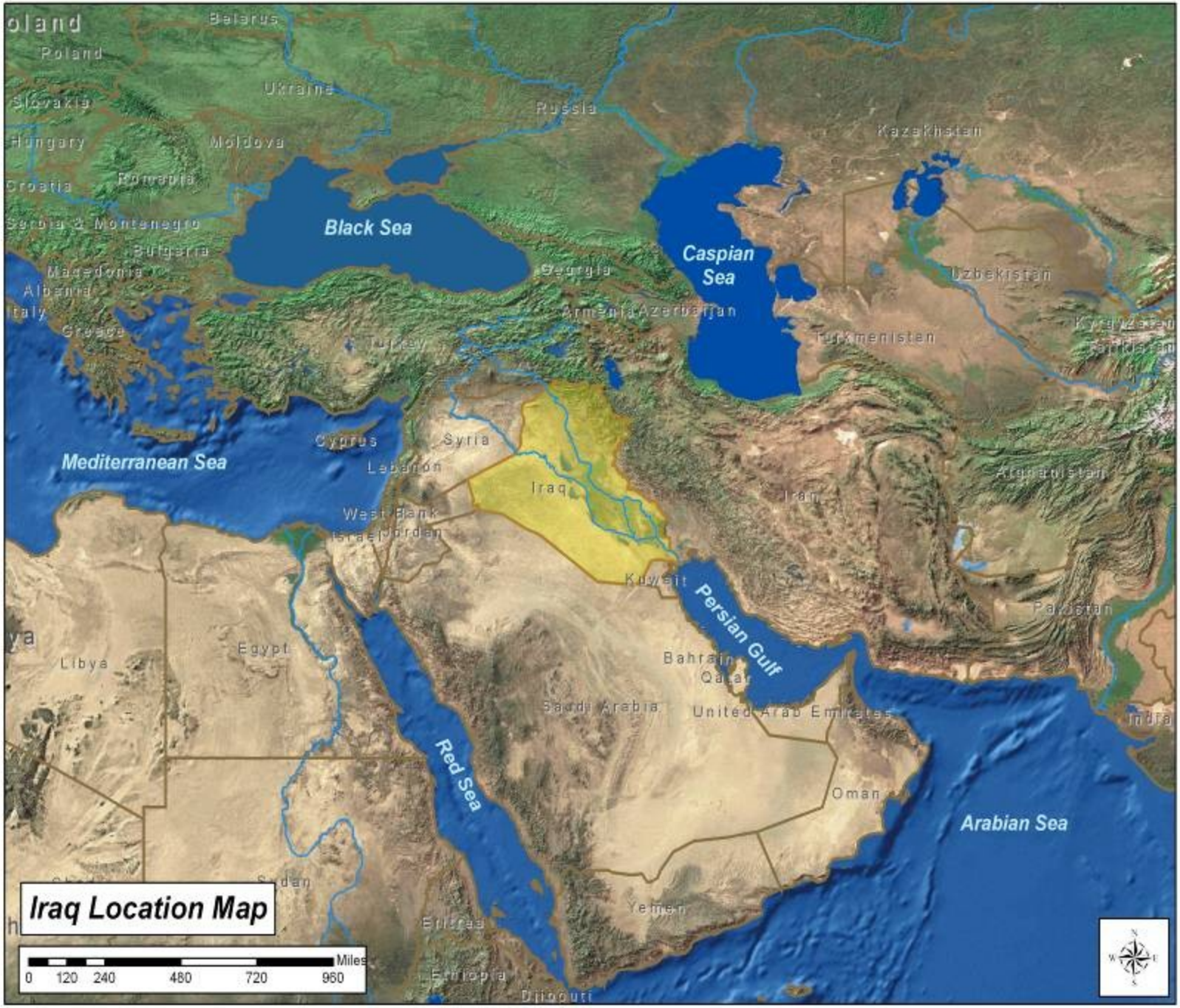
Historical accounts of wars, battles, and military training consistently relate that the greatest loss of forces was not caused by combat wounds – rather the majority of losses were the result of disease and non-battle injury (DNBI).

IRAQ

- Plagued by internal & externa conflict
- Deteriorated infrastructure



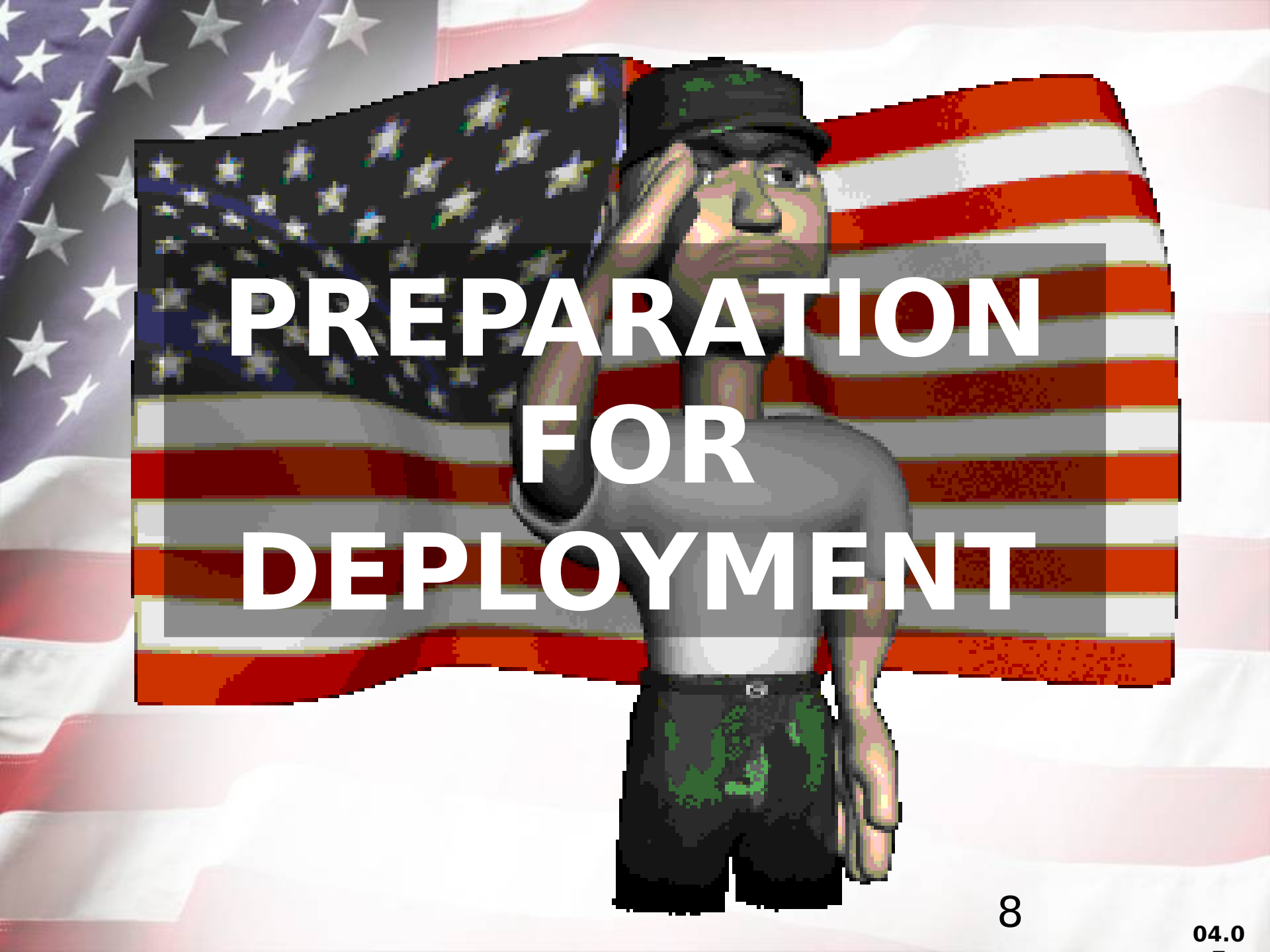
Where in the world is Iraq?



GUIDE TO STAYING HEALTHY

- Unfold YOUR *Iraq Deployment Health Guide*
- Personal Protective Measures (PPM) – Individual Countermeasures
- Reference Guide for this Briefing

This guide is for use by all active/reserve component military, civilian, retiree, and contractor personnel. Any individual who trains and prepares for, or participates in any type of military operation should keep and refer to this guide.


PREPARATION
FOR
DEPLOYMENT

PREPARING TO DEPLOY

- Medical, Dental & Vision Screening (Soldier Readiness Processing)
- Prepare clothing and gear and personal hygiene items
- Complete Pre-deployment Health Assessment (DD Form 2795)
- Immunizations and chemoprophylaxis
  - Begin malaria chemoprophylaxis when directed by medical authority)

During medical screening, discuss prescribed medications with the examiner; obtain at least 90-day supply of medications

PREPARING TO DEPLOY

ADDITIONAL PACKING ITEMS:

- Cotton underwear (10 changes)
- Birth control supplies
- Personal Hygiene Products
- Anti-fungal cream/powder & shower shoes
- Insect repellent, sunscreen, eye and hearing protection, lip balm, skin lotion

If you need medications or hygiene items which may not be available through normal supply systems, obtain a 6-month supply, or enough for the duration of the operation

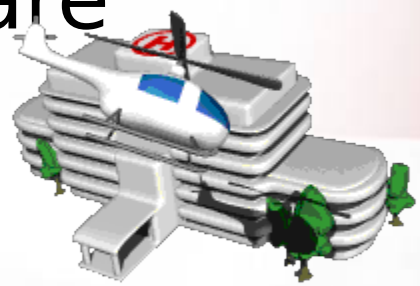
PREPARING TO DEPLOY FEMALE CONSIDERATIONS

- Birth control pills
- Feminine Hygiene Products (non-deodorant tampons, sanitary napkins, panty liners; menstrual cramp reliever)
- Yeast infection medication (two courses of vaginal treatment)
- Portable Urinary Device
  - For use by female personnel to reduce time needed to urinate and resolve privacy issues when latrines are not available (convoys, field operations) NSN: 8530-01-470-2805

If using birth control pills, continue as prescribed to regulate menstrual cycles and avoid problems resulting from inconsistent use

DEPLOYMENT HEALTH CARE

- Know where to seek health care when deployed
- May or may not be through same channels as your home station
- Maintain your health and seek care whenever an illness or injury occurs



PREVENTIVE MEDICINE COUNTERMEASURES

- Medical Tests – All Personnel
  - PPD – Purified Protein Derivative
    (TST – Tuberculin Skin Test)
    - Within 12 months prior to deployment
    - **AND** At time of redeployment
    - **AND** Again between 3-6 months after redeployment
  - HIV – Human Immunodeficiency Virus
    - Required every 2 years. Serum collection before deployment will be tested regardless of date of last test.

TEST RESULTS

IMMUNIZATION REQUIREMENTS

- All Personnel
  - Hepatitis A
  - Typhoid
  - Tetanus-diphtheria
  - Influenza (seasonal)
  - Measles, Mumps, Rubella (MMR)
  - Polio
  - Smallpox
- Selected Personnel
  - Hepatitis B (medics, MPs, firefighters, combat lifesavers)
  - Rabies (occupational risk of exposure)
  - Pneumococcal (asplenic personnel)
  - Anthrax (as directed from higher)

Confirm requirements with medical authority or OPORD

FIELD SANITATION TEAM

- Field Sanitation Teams (FST) train unit personnel in Preventive Medicine Measures (PMM) and advise the commander and unit leaders on implementation of unit-level PMM.
- Know who the members of your Field Sanitation Team are PRIOR to deployment
- The FST can assist in preventing medical threats to your health
- Deploy with all FST equipment

Failure to apply PMM increases the risk of mission failure

DEPLOYMENT

PERSONAL PROTECTIVE MEASURES

- Wash hands frequently
- Do not rub eyes or inside of nose with bare finger(s)
- Bathe/shower regularly (field expedients will do); use unscented products
- Wear shower shoes to prevent athlete's foot
- Dry thoroughly after showering
- Sleep head-to-toe if billeted in common areas
- Wear clean, dry uniforms; change socks daily and uniform at least weekly
- Do not wear nylon or silk undergarments; cotton undergarments are more absorbent and allow the skin to dry
- Seek prompt medical care if problem exists

ORAL HEALTH

- Deploy with:
  - Toothbrush
  - Dental Floss
  - Fluoride Toothpaste
- Brush twice-daily
  - Daily in difficult tactical environments
- Floss daily
- Seek medical attention at the onset of any dental problems

SPIRITUAL HEALTH

- Maintain personal prayer/meditation
- Obtain and read wholesome religious/spiritual literature
- Attend religious/spiritual group discussions/studies
- Process anger, fear, anxiety & guilt through personal & group spiritual/religious activities

- Keep in touch with spiritual advisors/chaplains
- Confide in others who have been “over there” before

NUTRITION

- Drink fluids regularly (hourly fluid intake should not exceed 1.5 quarts, daily fluid intake should not exceed 12 quarts)
- Maintain weight; do not avoid food or attempt weight loss during a deployment
- Work in cold weather can increase energy needs by 10-25%
- Operations in high-altitude areas can increase energy needs by 50% or more

SMOKING

- March – August 2003: 19 cases of severe pneumonia in service members deployed to Southwest Asia
  - 16 smokers, *8 began smoking during th deployment*
  - *Two pneumonia deaths*
- January 2004: 2 new severe cases of pneumonia
  - *Both began smoking during this deployment*

If you don't smoke, don't start during a deployment.
If you do smoke, quit.

STRESS

- Operational stressors
- Different types and intensities
- Recognize the symptoms of depression
- Seek or encourage help
- Take steps to reduce operational stress

Stress can be intensified for personnel who are exposed to or observe human suffering and/or death

IMPROVE RESISTANCE TO STRESS

- Fear and physical signs or symptoms of stress are normal reactions before and during combat or other dangerous/life-threatening situations
- Talk about what is happening with your buddies
- Learn ways to relax quickly
- Quickly integrate new replacements
- If you must join a new group, be activ in establishing friendships
- Give each other moral support
- Care for your buddies and work toget

HEARING CONSERVATION

- Loud noise causes permanent hearing loss

COUNTERMEASURES

- Have your hearing protectio with you at all times and us
- Be sure your ear plugs, noise muffs or helmets fit properly and are in good condition
- Avoid noise or limit time around noise to only critical tasks

Combat Arms Earplug

NSN 6515-01-466-

Authorized wear

IAW AR 670-1

If you have to raise your voice to be understood, it is too noisy.

Put on hearing protection.

VISION CONSERVATION

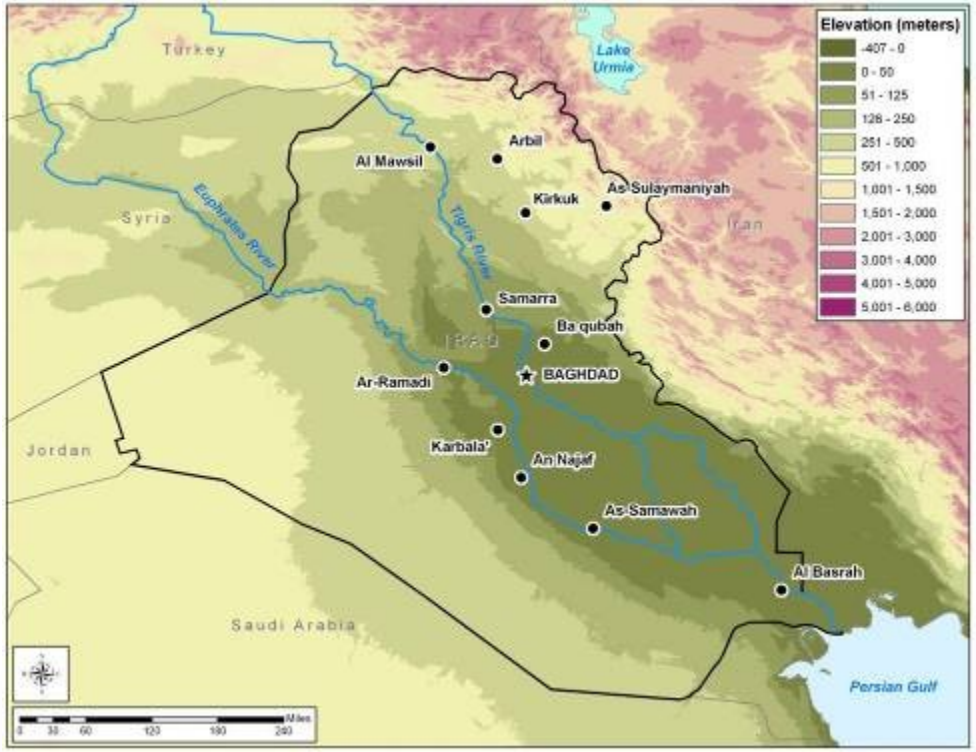
- **Preventive Measures and Eye Protection**
  - Contact lens use is prohibited for use in environments where exposure to smoke, toxic chemical vapors, sand, or dust occurs
  - If required, maintain 2 pair of glasses and 1 protective mask insert
  - Use eye protection when in any potentially eye hazardous environme
    - Safety goggles or spectacles with side shields*
    - emical splash goggles*

*(ANSI Z87.1 approved)

Vision Ready is Mission Ready!

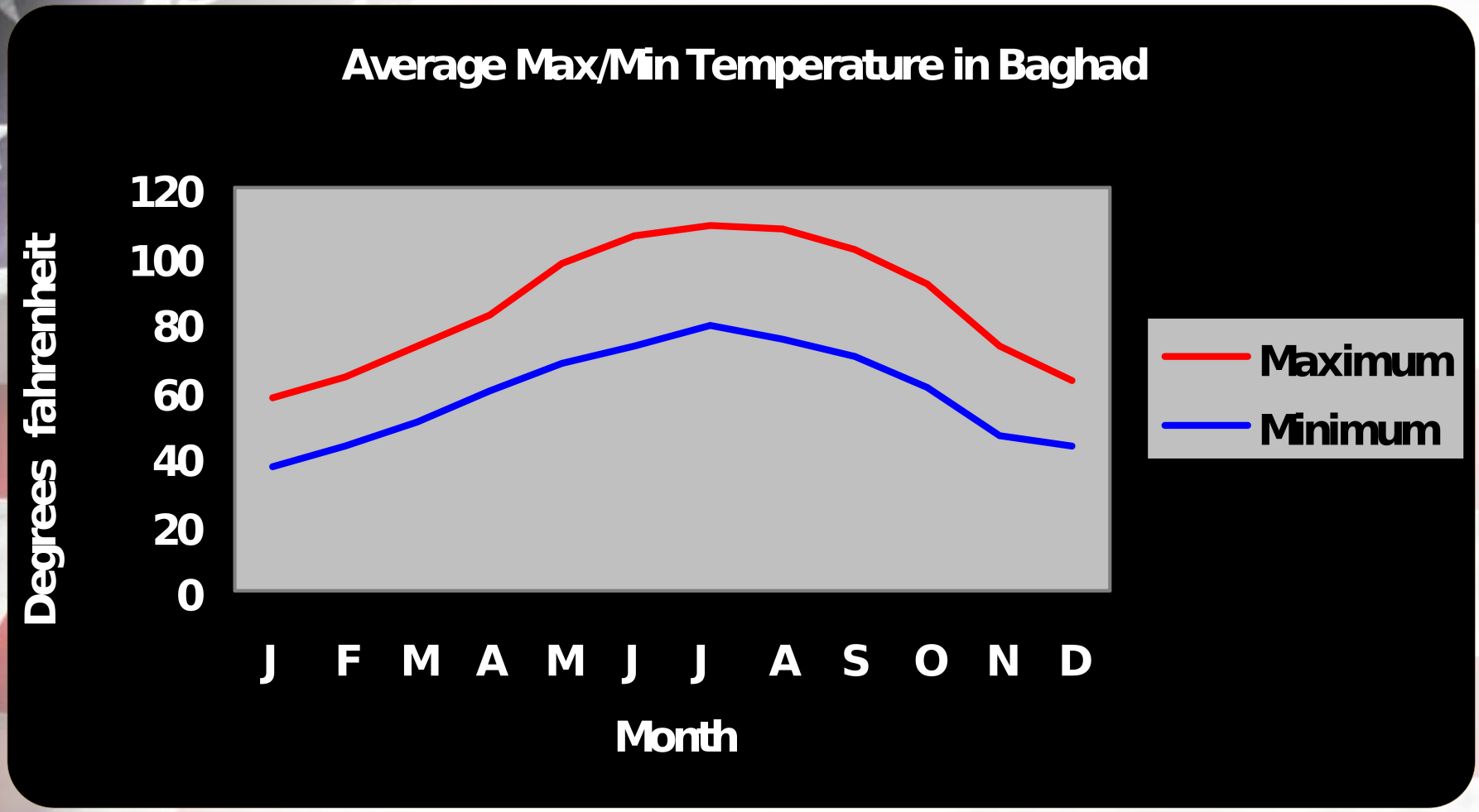
Physical Environment

- Topography
  - **Broad Desert Plains**
  - **Hills**
  - **Mountains**
- Climate
  - **Temp extremes**
  - **122° F day**
  - **37° F night**

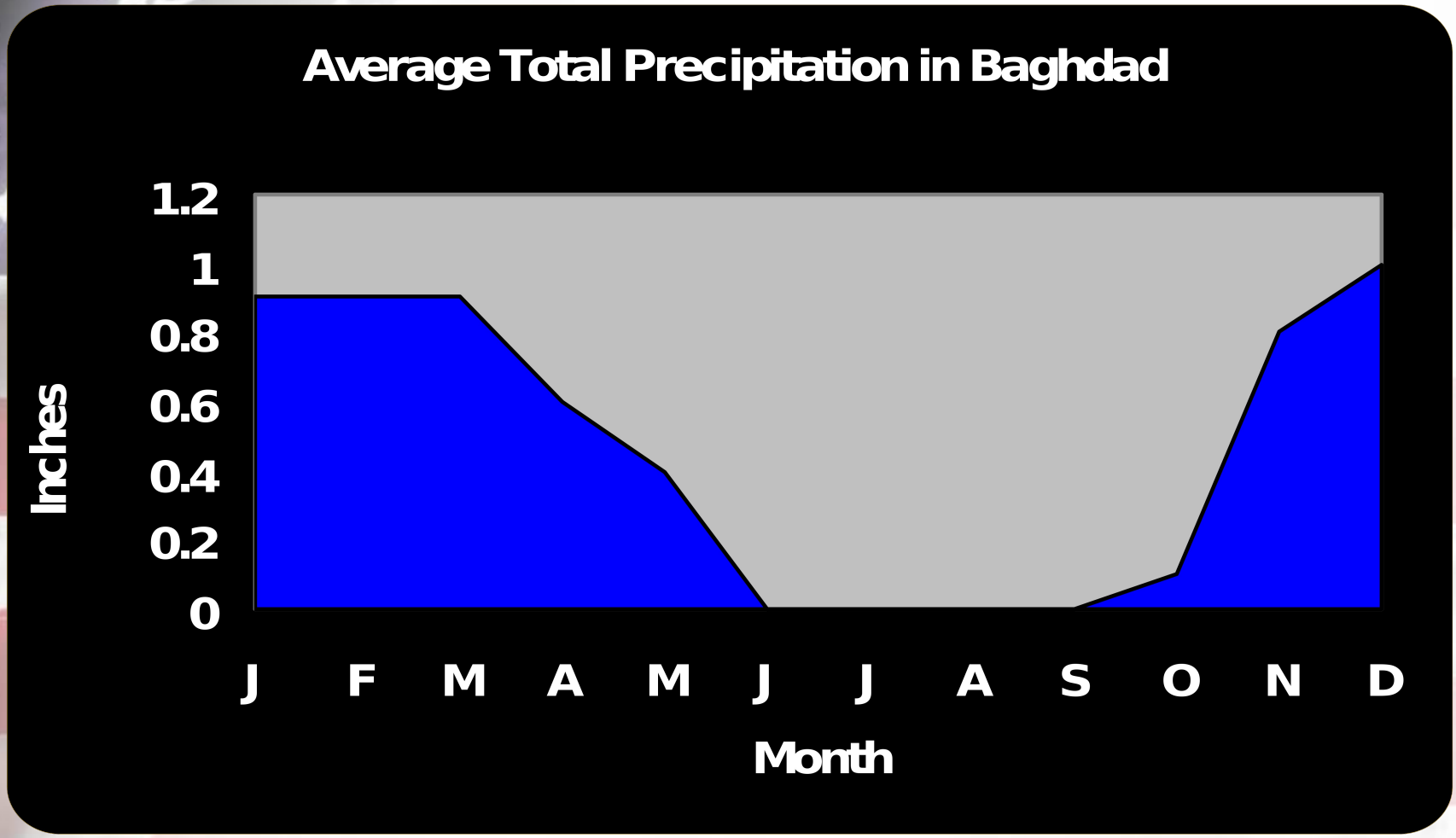


Dust and sandstorms occur year-round; most severe between May and October

Physical Environment



Physical Environment



HEAT INJURY PREVENTION

- Heat Cramps, Exhaustion, or Stroke

COUNTERMEASURES

- Drink fluids continuously (hourly fluid intake should not exceed 1.5 quarts, daily fluid intake should not exceed 12 quarts)
- Maintain acclimatization
- Protect yourself from exposure to sunlight and wind
- Maintain good physical condition
- Establish work/rest schedules
- Wear proper clothing
- Participate in training

You should receive annual unit training on prevention of heat injury. Heat injuries are preventable!

HEAT

H: Heat category – WBGT Index

E: Exertion level (prior 3 days)

A: Acclimatization

T: Tables – Water/Work/Rest

REMEMBER

Water requirements are not reduced by any form of training or acclimatization.

Units which have soldiers who do not drink because they do not have opportunities to urinate have a leadership problem.

SUNBURN

- Prevent overexposing skin and eyes to solar radiation and wind

COUNTERMEASURES

- Use sunscreen and lip balm
- Use protective eyewear
- Limit exposure
- Cover nose and mouth to limit drying

Sunburn reduces soldier readiness and increases the likelihood of skin cancer.

COLD INJURY PREVENTION

- Hypothermia, Frostbite, Chilblains

COUNTERMEASURES

- **When possible, remain inside warming tents/buildings and drink warm, uncaffeinated liquids for relief from the cold**
- **If working outside or on guard duty, insulate yourself from the ground and wind. Rotate duty as frequently as mission allows.**
- **Properly wear the Extended Cold Weather Clothing System**

You should receive annual unit training on prevention of cold injury

COLDER

C: Keep clothing **C**lean

O: Avoid **O**verheating.

L: Wear clothing **L**oose and in layers

D: Keep clothing as **D**ry as possible

E: **E**xamine clothing (holes, tears, broken fasteners)

R: **R**epair or replace damaged clothing

Notify your first-line supervisor if you have had a previous cold injury. Use the buddy system.

CARBON MONOXIDE

- Carbon monoxide (CO) is a colorless, odorless, and tasteless gas produced by engines, stoves, and gas/oil heaters.
- CO replaces oxygen in the body, causing headache, sleepiness, coma, and death.

COUNTERMEASURES

- Keep sleeping area windows slightly open for ventilation and air movement.
- DO NOT sleep in vehicles with the engine running or use engine exhaust for heat.
- DO NOT park vehicles near air intakes to tents, trailers, or environmental control units.

Do not use unapproved commercial off-the-shelf heaters. Check with your unit Safety Officer.

HIGH ELEVATIONS

- High Altitude-elevations over 6,000 feet
  - High Altitude illnesses can kill
  - Stage ascents over time
  - Environmental conditions are more severe at higher elevations
    - Lower oxygen levels (“thin air”)
    - Colder temperatures, high winds, low visibility
    - Ice, snow, rocks, avalanches

- Remain well hydrated

Be observant of the common symptoms of mountain sickness: headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing. Seek medical attention immediately in you experience any of these symptoms.

SAND, DUST, AND WIND

- Sand, wind, and dust cause health problems, particularly to skin, eyes, throat and lungs
- High winds create flying object hazards which may not be visible in blowing sand or dust
- Wash daily, especially body areas that collect dust and sand
- Protect lips with lip balm and use moisturizing skin lotion on your hands to prevent cracked, chapped fingers
- Shield your face with cloth materials to protect from blowing dust and sand
- Protect your eyes

Environmental Health Risk

- Greatest short-term health risks
  - Ingestion of food or water contaminated with fecal pathogens.
  - Extreme heat, high altitude, and airborne dust and sand

- Greatest long term risk
  are associated
  contamination and
  chemical contaminatio
  of food/water

Infectious Disease Risk

- **INTERMEDIATE RISK** for infectious diseases

- Disease risk will adversely impact mission effectiveness unless force health protection measures are implemented

Infectious Diseases

- Foodborne and Waterborne Diseases
  - **HIGH RISK** = Diarrhea, hep A, typhoid fever
  - **INTERMEDIATE RISK** = brucellosis, hep E
- FHP Priorities
  - Deploy appropriate PM personnel and equipment
  - Consume food, water, ice only from US-approved sources
  - Operate food preparation facilities in accordance with Army doctrine
  - Ensure proper hand washing facilities near all latrines and dining facilities and enforce

NOT AN APPROVED SOURCE

Infectious Diseases Cont.

- Vector-borne Diseases
  - **INTERMEDIATE RISK** = Malaria, Leishmaniasis, Crimean-Congo fever, Sand-fly fever, West Nile fever

- FHP Priorities
  - Use DEET on all exposed skin
  - Treat field uniforms with permethrin
  - Use bed nets in field conditions, treat with permethrin

PERSONAL PROTECTIVE MEASURES

Permethrin On Uniform

+

DEET On Exposed Skin

+

Properly Worn Uniform

MAXIMUM PROTECTION

DOD Insect Repellent System

YOU NEED TO KNOW…
Dry cleaning removes permethrin from the uniform

INSECT REPELLENTS FOR SKIN AND CLOTHING

DEET lotion

NSN 6840-01-284-

- Apply a thin coat to EXPOSED skin
- One application lasts up to 12

Permethrin

- Individual Dynamic Absorption Kit (IDA)
- Treatment lasts for for over 50 launderings

NSN 6840-01-345-0237

NSN 6840-01-278-1336

- Aerosol spray can
- Treatment lasts through 5-6 washes

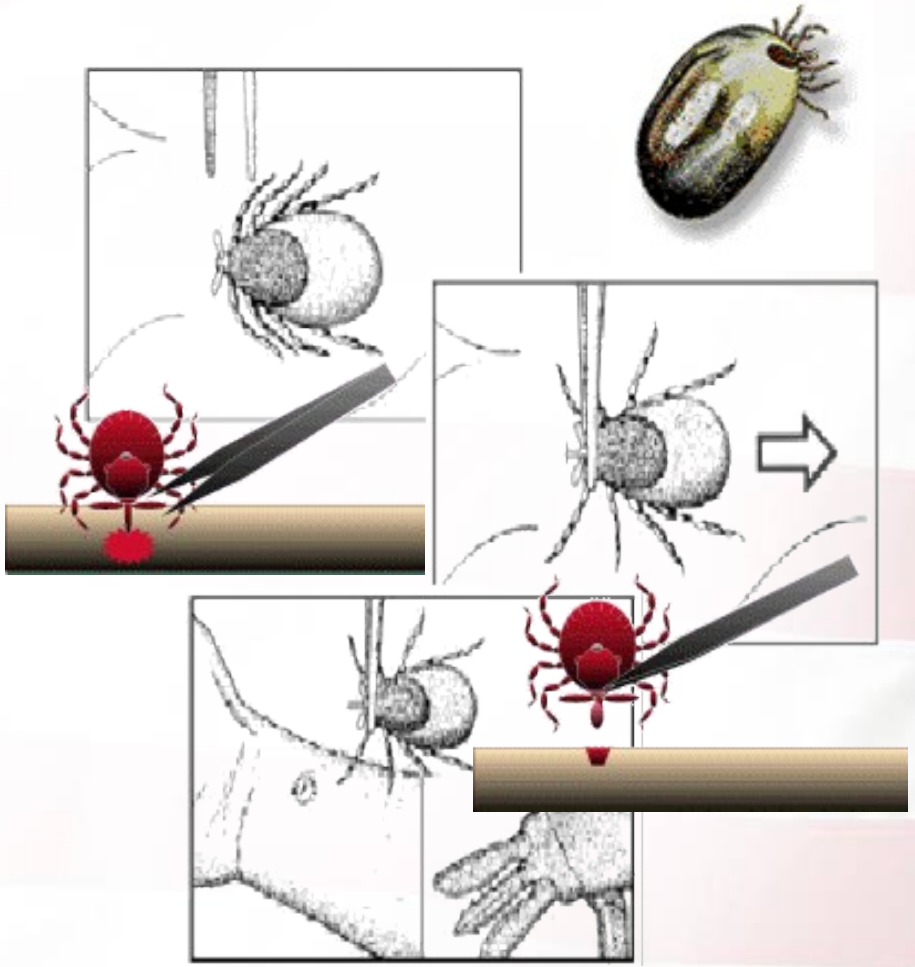
OTHER INDIVIDUAL COUNTERMEASURES

- Wash and inspect your body for insects/ticks and bites daily
- Use buddy system to check clothing routinely
- Launder uniform routinely to remove insects and eggs
- Order a permethrin-impregnated bed net for use while sleeping
  - Otherwise, treat a bed net before use by spraying the outside of the net with permethrin
  - Tuck edges under cot or sleeping bag
  - Don't let net touch your skin while you sleep

NSN 3740-01-516-4415

TICK REMOVAL PROCEDURES

- Use fine-tipped tweezers to grasp mouthparts
- Grasp mouthparts against skin surface
- Pull back slowly and steadily with firm tension
- Avoid squeezing tick
- Wash wound and apply an antiseptic



Infectious Diseases Cont.

- Animal-contact Diseases
  - **INTERMEDIATE RISK** = Anthrax, Q-fever, Rabies

- FHP Priorities
  - Avoid animal contact
  - No mascots
  - Report all animal bites and scratches

What not to do!

Infectious Diseases Cont.

- Sexually Transmitted Diseases
  - **INTERMEDIATE RISK** = gonorrhea, chlamydia, HIV, Hep B
- FHP Priorities
  - Avoid sexual contact
  - Use latex condoms if sexually active

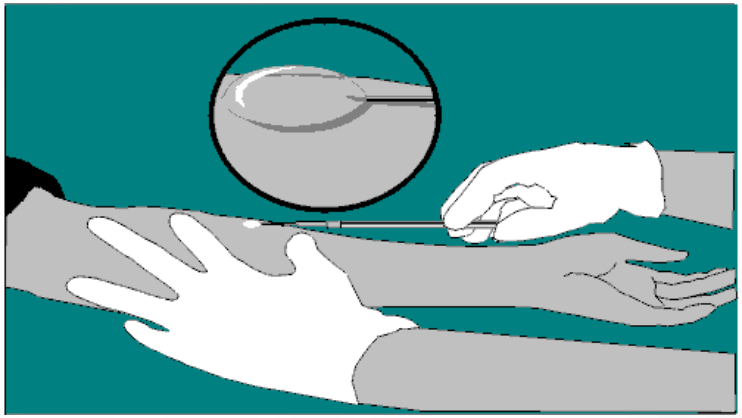
Infectious Diseases Cont.

- Water-contact Diseases
  - **INTERMEDIATE RISK** = leptospirosis, schistosomiasis
- FHP Priorities
  - avoid unnecessary contact with lakes, rivers, streams, and other surface water

There will not be a sign like this.

Infectious Diseases Cont.

- Respiratory Diseases
  - **INTERMEDIATE RISK** = tuberculosis
- FHP Priorities
  - Tuberculin skin test before and after deployment
  - Avoid close contact with local population



Hazardous Animals & Plants

- Animals
  - Rabid animals snakes, centipedes, scorpions, spiders
- Plants
  - Mole Plant, Belladonna, Strychnine
- FHP Priorities
  - Do not handle animals
  - Shake out boots, clothing, & bedding
  - Do not touch, chew, eat, or burn unfamiliar plants

ENVIRONMENTAL CONSIDERATIONS

- Consider environmental aspects of operations
- What was the area originally used for?
- Properly manage hazardous material
- Properly dispose of hazardous and medical waste
- Prevent oil and fuel spills
- Clean vehicles at proper locations
- Respect cultural and historical property
- Protect natural resources and the terrain

ENVIRONMENTAL CONSIDERATIONS

- Hazardous Materials
- Hazardous Waste
- Medical Waste
- Refueling Points
- Spill Response
- Wastewater Discharge
- Decon Sites

- Latrines
- Burn pits
- Laundry and Bath
- Fuel Storage
- POL Storage
- Generators
- Special Wastes
- Burial Sites

ENVIRONMENTAL AIR POLLUTION

- Location of Air Pollution Sources
  - Burning or Damaged Buildings
  - Open Burning/Waste Disposal
  - Vehicle/Generator Exhaust

- Contaminants
  - Dust, Silica, Asbestos, Lead
  - Organic Vapors and Organic Gases

- Industrial Facilities

OIL FIELD HAZARDS (OIL BURNING)

- Burning Trench
  - See/Feel-Wall of fire and black smoke, low visibility, intense heat, sulfur-oily smell
  - Danger-Toxic smoke, gases, fumes, darkness, intense heat
  - Do This-Avoid burning fields, trenches, facilities, move upwind if possible, avoid intense heat, avoid contact with oil/oil spray, use sand to clean skin and clothing, close up vehicles
- Burning Storage Tanks
  - See/Feel-Burning pools of oil around well heads and tanks
  - Danger-Sudden expansion of fires, range finders/IR won't work well
- Blown Well Head
  - See/Feel-Intense blow torch fire from well h

OIL FIELD HAZARD (OIL NOT BURNING)

- Blown Well Head
  - See/Feel-Violent jet and spray of oil, pools of oil, rotten egg smell
  - Danger-Sudden ignition of oil, oil spray, toxic gases and fumes, projectiles from well head, discharging weapons may ignite oil and gas
  - Do This-Avoid area, avoid oil spray, clean with soapy water, stay away from well heads, don mask and evacuate upwind, use detection equipment if available
- Intact Well Head
  - See/Feel-Pipes and valves, may be surrounded by sand bags
  - Danger-Undetonated charges which may explode
  - Do This-Avoid the well head

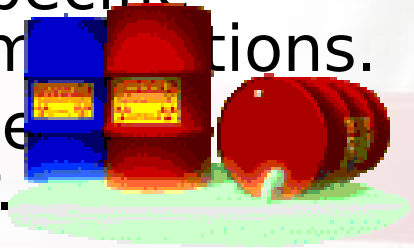
OIL FIELD HAZARD (OIL NOT BURNING)

- Ruptured Storage Tanks and Refineries
  - See/Feel-Pools of oil and oily smell
  - Danger-Sudden ignition of oil and fumes
  - Do This-Avoid
- Oil Filled Trenches
  - See/Feel-Oily smell
  - Danger-Sudden ignition of oil
  - Do This-Proceed cautiously

NOTE: Igniting Oil and Gas is EXTREMELY Dangerous. It is a Command decision to ignite oil or gas that is not burning. This should only be done under strict supervision.

TOXIC INDUSTRIAL CHEMICALS/MATERIALS

- OCONUS threat exists from accidental or **intentional** release of TICs/TIMs.
- CAUTION - There are many uncommon/unknown TIC/TIM sources in an OCONUS setting.
- Become familiar with individual response technique, such as shelter in place, and any emergency warning systems (if applicable). Make sure other unit members are also aware.
- Protective measures are chemical specific – rely on trained personnel for recomm tions.
- There is no one size fits all protective measures – this includes MOPP gear.



CHLORINE IMPROVISED EXPLOSIVE DEVICE (IED) ATTACKS

- Iraq insurgents have increasingly used chlorine in IED attacks
- Chlorine gas is a widely used commercial chemical and easily available
- Chlorine is toxic yellow-green gas with a pungent bleach like odor

- Chlorine is heavier than air so it will concentrate along the ground and in low lying areas
- Mild to moderate effects include eye/throat irritation and coughing
- Extremely high exposures can damage lungs and possibly be fatal
  - Those with severe symptoms should be medically observed for several hours post exposure for signs of pulmonary edema
- If you smell chlorine after an IED attack, **MASK & MOV**
  - Don your M40 protective mask
  - Move upwind from the attack at least 240 meters

- ***NOTE: M40 mask offers only limited protection and should only be considered an escape mask***
- Typically no decontamination for chlorine gas is necessa however if eyes or skin are irritated, decon by flushing with water
- Replace the canister (C2A1) on mask

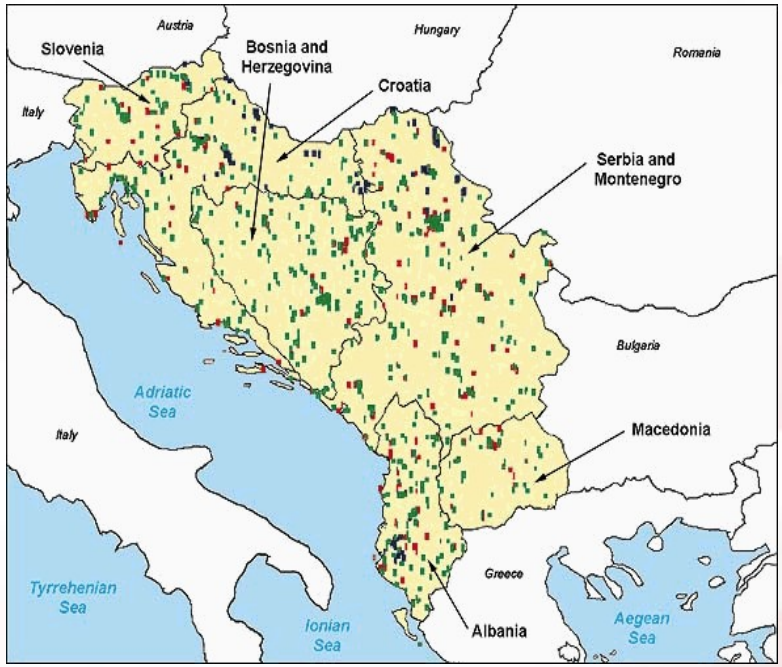
For more info:

tp://usachppm.apgea.army.mil/documents/FACT/36-015-0407_Chlorine_IEDs.pdf

TOXIC INDUSTRIAL CHEMICALS / MATERIALS

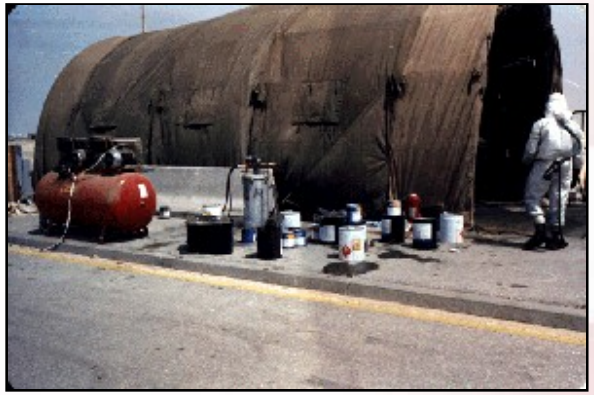
- Personnel deployed in support of missions ranging from war to operations other than war may be exposed to harmful chemicals as a result of industrial accidents, sabotage, or the intentional or unintentional actions of enemy or friendly forces.

Example Catastrophic Toxicological or Physical Hazards for Industrial Sites, Balkan States



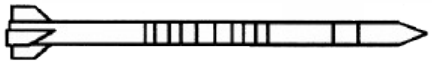
OCCUPATIONAL HAZARDS

- Exhaust from engines and fuel space heaters
- Gases from weapons firing
- Solvents used to clean weapons
- Chemicals and metals from vehicles and equipment
- Greases and oil from vehicle maintenance repair
- Detergents used to clean equipme
- Fuels and refueling operations
- Weapon systems: radiation energy shock, vibration, noise



DEPLETED URANIUM (DU)

- Depleted uranium (DU) is used in armor-piercing munitions and in enhanced tank armor protection
- DU can cause adverse health effects if it enters your body (inhaled, ingested, fragments).



COUNTERMEASURES

- Receive Depleted Uranium Awareness Training
- Assume a DU contamination zone of 50 meters around actively burning fires involving any armored combat vehicles
- As with all battlefield debris-do not touch or move the object
- Notify authorities of the location of any debris
- Exercise standard field hygiene, to include washing hands and face
- No additional protective measures are required for handling unfired DU munitions other than those required for all munitions

CAVES

- Rabies from bat bites
- Tick-borne – Relapsing Fever
- Histoplasmosis from bat guano
- Confined Space Issues
  - Poor air exchange/ventilation
  - Asphyxiant gasses and/or low oxygen level
  - Ordnance/munitions
  - Other hazardous chemicals and materials stored in the caves

AIRBASE CONTAMINATION

- Soil and ground water contamination as a result of poor storage management, accidental releases, and improper waste disposal techniques
  - Kerosene, diesel fuel, gasoline, heating oil, lubricants, organic solvents, PCBs, heavy metals, rocket propellants, and de-icing compounds
- Volatile organic compounds evaporating from soil and ground water may accumulate in the airspace inside of tents or buildings constructed over contaminated areas

AIRBASE CONTAMINATION

- **Personnel exposed to these contaminants may experience adverse health effects**

COUNTERMEASURES

- **Consult with preventive medicine personnel prior to engaging in soil excavation or other activities that involve direct contact with soil or ground water (example: construction of defensive positions)**
- **Do not work or bivouac over contaminated areas or in potentially contaminated buildings**
- **Exercise standard field hygiene (wash after contact)**
- **Seek medical care if you experience: eye, nose, and throat irritation; headaches, dizziness, weakness, loss of coordination, confusion, blurred vision, or nausea**

POST
-DEPLOYMENT

POST DEPLOYMENT

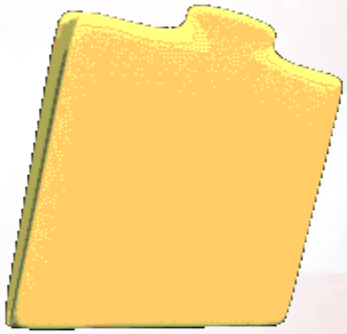
- Complete Post-Deployment Medical Health Assessment (DD FORM 2796)
- Receive post-deployment preventive medicine briefing
- Receive post-deployment screening, testing, and follow-up

POST DEPLOYMENT

- Continue to seek counseling from Chaplain or medical personnel
- Homecoming Stress
  - Don’t expect things to be exactly the same, especially if long deployment
  - Ease back into roles; don’t rush it
  - Children may be withdrawn
  - Spouse may be moody or depressed
  - Financial and property issues may require immediate attention

SUMMARY

- Review of *Deployment Health Guide*
- Preparation for Deployment
- Deployment
- Medical Threat
- Post Deployment



CONCLUSION

- Health threat awareness and implementation of associated countermeasures discussed in the briefing are critical to all military missions (including combat, support, and sustaining base military and civilian forces). Apply this information during all phases of military operations, including training, pre-deployment, deployment, and post-deployment.

QUESTIONS

Contact Your Local Preventive Medicine Service or Medical Support Unit for Additional Information

USACHPPM
Readiness thru Health

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